



The State of New Hampshire  
*Department of Environmental Services*



February 6, 2007

The Honorable Judith T. Spang, Chairman  
Resources, Recreation and Development Committee  
Room 305, Legislative Office Building  
Concord, NH 03301

**RE: HB 464, relative to Silver Lake in Belmont and Tilton.**

Dear Chairman Spang:

Thank you for the opportunity to comment on HB 464, which establishes a full lake level for Silver Lake of 465.0 feet above sea level. The bill also requires that if the level of the lake reaches or exceeds a level of 467.0 feet above sea level, the Department of Safety shall institute a no wake order on the lake prohibiting operation of any boat above headway speed until the level of the lake falls below 467.0.

The Department of Environmental Services (DES) is concerned that the portion of the bill that establishes a full lake level sets an unrealistic expectation for control of the water level of Silver Lake, which, if enforced, would have serious effects on the other water bodies in the basin including Lake Winnepesaukee, Lake Winnisquam and the Winnepesaukee River. Rather than establishing a full lake level for Silver Lake through the proposed bill, DES urges that the Winnepesaukee River Watershed Advisory Committee, which was established by the legislature to evaluate issues related to lake levels within the Winnepesaukee River watershed, develop a recommendation for the appropriate levels of Silver Lake.

As shown in the attached map of the Winnepesaukee River drainage area, Silver Lake is located on the Winnepesaukee River. The river is both the inlet and the outlet of the lake. Unlike the other upstream water bodies on the Winnepesaukee River, including Lake Winnepesaukee and Lake Winnisquam, which have dams that control the outlets, the outlet of Silver Lake is a natural channel that is very flat with little gradient to accelerate flow down river. When flows in the Winnepesaukee River are high, the water flowing out of this natural channel backs up, raising the level of Silver Lake until there is enough elevation to force the water downstream.

The drainage area of the Winnepesaukee River Basin at the outlet of Silver Lake is very large (approximately 470 square miles). Flows in the Winnepesaukee River and into and out of Silver Lake can be controlled to a degree, if flood control storage is available in Lake Winnepesaukee and Lake Winnisquam. However, eventually, all the runoff from the rainfall that falls within this very large drainage basin must flow through Silver Lake.

in the river at the time. During most of the year, when runoff is not high, flows in the river are between 250 cubic feet per second (cfs) and 1,000 cfs. This results in a fluctuation of approximately 22 inches between elevation 464 and 465.8. Under typical spring runoff conditions with flows up to 2,500 cfs, the rise in lake level can be more than 3 feet above the full lake level proposed in the bill. These conditions cause flooding of low-lying property along Silver Lake.

Normal summer flows through Silver Lake are in the range of 250 cfs. At this flow, the elevation of Silver Lake is approximately 464, or approximately a foot below 465.0, which is the full lake level proposed in the bill. To sustain an elevation of 465.0 at Silver Lake would require a constant flow of approximately 600 cfs in the Winnepesaukee River, which is almost 2.5 times the normal summer flow. This additional flow would have to be released from storage in Lake Winnepesaukee. Under normal conditions and with a release of 250 cfs through the summer months, the level of Lake Winnepesaukee drops between 9 and 12 inches between June 1<sup>st</sup> and Labor Day. If a flow of 600 cfs were maintained, the drop in the the level of Lake Winnepesaukee would be more than twice this amount, adversely affecting recreation on the lake. Conversely, if releases from either Lake Winnepesaukee or Winnisquam had to be limited under high flow conditions to keep Silver Lake near elevation 465.0, then significant and more frequent flooding around these waterbodies would result, until the water level rises to the point within these lakes where the dams that impound them can no longer hold the water back.

The management of the flows in the river and elevations of the waterbodies in the Winnepesaukee River watershed, for the multiple purposes of flood control, recreation, fish and wildlife enhancement, and hydroelectric power, is a complex balancing of competing interests within the watershed. To assist the Department of Environmental Services in this effort, in 1998 the New Hampshire Legislature established the Winnepesaukee River Watershed Advisory Committee under RSA 483-D. The committee is made up of elected officials from both bodies of the New Hampshire General Court, as well as representatives of the competing interests in the watershed. The members include a member of the Senate Environment Committee, the House Resources, Recreation and Development Committee, a member of the Silver Lake Association, a member of the Winnepesaukee Hydropower Association, a member of the New Hampshire Marine Trades Association, a member of the New Hampshire Lakes Association, and a professor in water resources from the University of New Hampshire.

Over the past year, the Committee has been meeting nearly monthly since May to establish the desired seasonal lake levels and operating ranges of all the waterbodies within the watershed. Once these desired lake levels have been established, the Committee will then examine how the dams in the watershed can be managed to achieve them and how conflicts between and among desired objectives can be resolved. Rather than establishing a full lake level for Silver Lake through the proposed bill, DES urges that the Winnepesaukee River Watershed Advisory Committee be allowed to complete its work and recommend a seasonal desired lake level for Silver Lake that is achievable within the constraints and conflicting interests in the watershed.



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Thank you again for this opportunity to comment on HB 464. Please call either me at 271-3503, or Jim Gallagher at 271-1961, if you have any questions or need additional information.

Very truly yours,

A handwritten signature in black ink that reads "Thomas S. Burack". A large, red, stylized "COPY" stamp is overlaid on the signature.

Thomas S. Burack  
Commissioner

Attachment

cc: Representative Michael D. Whalley  
Representative John H. Thomas  
Representative David H. Russell  
Representative Janet F. Allen  
Representative James P. Pilliod  
Senator Kathleen Sgambati

# Dams and Gages within the Winnepesaukee River Watershed

- ▲ Dams
- Gages
- Lakes
- ▨ Lakes
- ▧ Rivers and Brooks
- ▭ Watershed Boundary

